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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,385	08/01/2003	David E. Wolf	205-010US2	2826
27791	7590	10/05/2005		
ALLISON JOHNSON, P.A. LAKE CALHOUN EXECUTIVE CENTER 3033 EXCELSIOR BLVD., SUITE 467 MINNEAPOLIS, MN 55416			EXAMINER PUNNOOSE, ROY M	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/633,385

Applicant(s)

WOLF ET AL.

Examiner

Roy M. Punnoose

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23, 48-51, 57-59, 61-64 and 66 is/are rejected.
- 7) ☒ Claim(s) 24-47, 52-56, 60 and 65 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/12/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Oath/Declaration***

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application with the application serial number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not state that the person making the oath or declaration believes the named inventor or inventors to be the original and first inventor or inventors of the subject matter which is claimed and for which a patent is sought.

It appears that two independent inventors made the claimed invention. If this is the case then the oath or declaration must clearly indicate the first inventor and the second inventor. This is lacking in the declaration of the instant application. The Examiner suggests that the applicant(s) include "First Inventor" and "Second Inventor" designation in the proximity of the inventors' name and signature.

### ***Information Disclosure Statement***

2. The information disclosure statement filed July 28, 2005 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. The information disclosure statement has

been placed in the application file, but the information referred to therein has not been considered. The PTO-1449 for I.D.S submitted on July 28, 2005 has not been received or is missing from the file.

***Claim Objections***

3. Claim 2 is objected to because from the recitation "emission filter adapted to transmit light having a wavelength greater than the wavelength of light emitted by said excitation source" it appears that no light will pass through the filter if the pass band/wavelength of the filter is greater than the wavelength of light emitted by said excitation source. Did the applicant intended to use "wavelength range" in the claim? Clarification is requested.

4. Claim 3 is objected to because from the recitation "said light focusing element comprises a fiber optic" is not what is disclosed in the figures, specification and other claims. Did the applicant intended to state, "said light focusing element is coupled to a fiber optic"? Appropriate correction is requested.

5. Claims 14, 16 and 56 are objected to because it is not clear from the recitation of the "linear relationship" if the relationship is with regard to the physical dimensions of the two focusing elements, or, if it is with regard to the position(s) of the two focusing elements with respect to each other, or some other kind of relationship. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

7. Claim 62 recites the limitation "said excitation light attenuation device" in line 1. There is insufficient antecedent basis for this limitation in the claim. Claim 62 is dependent on claim 1,

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and claim 1 does not have any excitation light attenuation device included in it. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-2, 4, 5, 18, 57-59, 61, 62 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barbieri et al (US\_6,603,546).

10. Claims 1, 5, 57, 59 are rejected because:

- A. Barbieri et al (Barbieri hereinafter) discloses an instrument comprising: a laser excitation source 12 (see Figure 3), at least one of a light focusing element 36 positioned to receive light emitted by said excitation source 12, a detector 42 for detecting light, said detector 42 positioned to receive light emitted by a sample in a sample chamber 22 (see col.7, lines 14-17; Figure 3) excited by said laser excitation source 12, wherein said light focusing element 36 comprises a focusing lens for detecting molecules in small volume samples using fluorescence correlation spectroscopy. However Barbieri discloses prior-art teaching that the correlator is coupled to a detector for detecting molecules in small volume samples using fluorescence correlation spectroscopy (see col.4, lines 43-50).
- B. In view of Barbieri's disclosure, it would have become obvious to one of ordinary skills in the art at the time the invention was made to manipulate and combine the prior-art and

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Barbieri's teachings to create an alternate apparatus for detecting molecules in small volume samples using fluorescence correlation spectroscopy.

11. Claim 2 is rejected for the same reasons of rejection of claim 1 above and additionally because the Examiner takes official notice that the use of emission filter is well known in the art and therefore the use of a filter with a desired wavelength pass band would have been obvious to one of ordinary skills in the art at the time the invention was made in the apparatus to obtain a desired result.

12. Claim 4 is rejected for the same reasons of rejection of claim 1 above and additionally because Barbieri teaches of an aperture 38 positioned to receive light emitted by a sample excited by said excitation source 12 (see col.7, lines 44-49).

13. Claim 18 is rejected for the same reasons of rejection of claims 1 and 4 above and additionally because in view of Barbieri's teaching of the use of a filter 34 (see Figure 3) in the optical path, it would have become obvious to one of ordinary skills in the art at the time the invention was made to place the filter at any desired location in the optical path to obtain a desired result.

14. Claim 58 is rejected for the same reasons of rejection of claim 1 above, and because in view of Barbieri's teaching of one type laser light source, it would have become obvious to one of ordinary skills in the art at the time the invention was made to have other types of light sources to be incorporated into the apparatus due to the fact that such an incorporation would provide the apparatus with additional illumination capabilities for improving the accuracy of the apparatus.

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15. Claims 61, 62 and 64 are rejected for the same reasons of rejection of claim 1 above, and additionally because the Examiner takes official notice that the use of attenuation devices such as ND filter and carrying case are well known in the art and therefore it would have been obvious to one of ordinary skills in the art at the time the invention was made to incorporate the use of them in the apparatus for any desired purpose.

16. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barbieri et al (US\_6,603,546) in view of Alfano et al (US\_6,208,886).

17. Claims 3 and 6 are rejected because:

- A. Barbieri teaches all claim limitations as disclosed above, except for light focusing element comprising a fiber optic and an excitation source coupled to fiber optic for detecting molecules in small volume samples using fluorescence correlation spectroscopy.
- B. Alfano et al (Alfano hereinafter) discloses an apparatus comprising a light focusing element such as a lens is coupled to optical fiber and a laser excitation source coupled to an optical fiber (see col.8, lines 17-20; Figure 9) in an apparatus for measuring fluorescence, among other parameters; reflected from a sample.
- C. In view of Alfano's disclosure, it would have become obvious to one of ordinary skills in the art at the time the invention was made to incorporate Alfano's teachings into Barbieri's apparatus that will be more accurate due to the fact that the coupling of the source to the optical fiber will prevent any ambient light from illuminating a sample under test, in an apparatus for detecting molecules in small volume samples using fluorescence correlation spectroscopy.

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18. Claims 7-23, 48-51, 63 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barbieri et al (US\_6,603,546) in view of Berthold et al (US\_5,220,172).

19. Claim 7 rejected because in view of Barbieri's and Berthold's teaching of the use of one light focusing element, it would have become obvious to one of ordinary skills in the art at the time the invention was made to duplicate the above and have additional light focusing elements as needed to obtain a desired result.

20. Claims 8-9 are rejected because:

- A. Barbieri teaches all claim limitations as disclosed above, except for a light focusing element comprising a first fiber optic coupled to the excitation source, and a second fiber optic positioned to receive light emitted by a sample excited by said excitation source in an apparatus for detecting molecules in small volume samples using fluorescence correlation spectroscopy.
- B. Berthold et al (Berthold hereinafter) a light focusing element 13 comprising a first fiber optic 56 coupled to the excitation source, and a second fiber optic 57 positioned to receive light emitted by a sample 40 excited by said excitation source (see Figure 6(a) in an apparatus for detecting fluorescence emission from a sample under test.
- C. In view of Berthold's disclosure, it would have become obvious to one of ordinary skills in the art at the time the invention was made to combine Berthold's teachings into Barbieri's apparatus to create an apparatus that is more versatile for detecting molecules in small volume samples using fluorescence correlation spectroscopy.

21. Claim 10 is rejected for the same reasons of rejection of claims 1 and 9 above, and because in view of Barbieri's teaching of one type of liquid sample holder 22, it would have



become obvious to one of ordinary skills in the art at the time the invention was made to have other types of sample holders to be incorporated into the apparatus due to the fact that such an incorporation would provide the apparatus with additional capabilities such as particle counting.

22. Claims 11-23 are rejected for the same reasons of rejection of claims 1-10 above because they are different combinations of the same limitations/elements arranged to obtain similar results.

23. Claims 48-51 are rejected for the same reasons of rejection of claims 1-23 above because they are different combinations of the same limitations/elements arranged to obtain similar results.

24. Claim 63 is rejected because:

- A. Barbieri teaches all claim limitations as disclosed above, except for a fiber optic positioned to receive light emitted by a sample excited by said light source, said fiber optic being coupled to a detector for detecting molecules in small volume samples using fluorescence correlation spectroscopy.
- B. Berthold discloses a fiber optic 22 positioned to receive light emitted by a sample excited by said light source 10, said fiber optic 22 being coupled to a detector 24 (see col.7, lines 1-17) in an apparatus for detecting fluorescence emission from a sample under test.
- C. In view of Berthold's disclosure, it would have become obvious to one of ordinary skills in the art at the time the invention was made to combine Berthold's teachings into Barbieri's apparatus to create an apparatus that is more versatile for detecting molecules in small volume samples using fluorescence correlation spectroscopy.

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25. Claim 66 is rejected for the same reasons of rejection of claim 63, and because in view of Barbieri's teaching of one type of liquid sample holder 22, it would have become obvious to one of ordinary skills in the art at the time the invention was made to have other types of sample holders to be incorporated into the apparatus due to the fact that such an incorporation would provide the apparatus with additional capabilities such as particle counting.

***Allowable Subject Matter***

26. Claims 24-47, 52-56, 60 and 65 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, or, if the rejections to the parent claim(s) can be overcome.

27. Claim 24 is allowable because none of the prior art documents disclose a third light focusing element positioned to receive light transmitted through said dichromatic mirror and through said first aperture; and a second dichromatic mirror positioned to receive light transmitted through said third light focusing element, in combination with the rest of the limitations of claim 24.

28. Claim 38 is allowable because none of the prior art documents disclose a third light focusing element positioned to receive light transmitted through said dichromatic mirror, and a second dichromatic mirror positioned to receive light passing through said third light focusing element, in combination with the rest of the limitations of claim 38.

29. Claim 52 is allowable because none of the prior art documents disclose a third fiber optic coupled to the beam splitter, a first emission filter positioned to receive light from the third fiber

optic, a fourth fiber optic coupled to said beam splitter; and a second emission filter positioned to receive light from said fourth fiber optic, in combination with the rest of the limitations of claim 52.

30. Claims 25-37, 39-47, 53-56, 60 and 65 are allowable because they are dependent on independent claims 24, 38 or 52, or, an intermediate claim.

### *Conclusion*

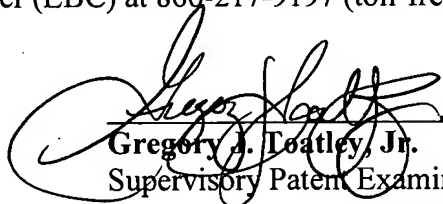
31. Several facts have been relied upon from the personal knowledge of the examiner about which the examiner took Official Notice in this office action. Applicant must seasonably challenge well known statements and statements based on personal knowledge when they are made. In re Selmi, 156 F.2d 96, 70 USPQ 197 (CCPA 1946); In re Fischer, 125 F.2d 725, 52 USPQ 473 (CCPA 1942). See also In re Boon, 439 F.2d 724, 169 USPQ 231 (CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice). If applicant does not seasonably traverse the well-known statement during examination, then the object of the well known statement is taken to be admitted prior art. In re Chevenard, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well-known statement in the **next reply** after the Office action in which the well known statement was made.

32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Roy M. Punnoose** whose telephone number is **571-272-2427**. The examiner can normally be reached on 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Gregory J. Toatley, Jr.** can be reached on **571-272-2800 ext.77**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Roy M. Punnoose**  
Patent Examiner  
Art Unit 2877  
September 30, 2005

  
**Gregory J. Toatley, Jr.**  
Supervisory Patent Examiner

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